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C08-149 Rapid Estimation of Airfoil Aerodynamics for Helicopter Rotors
C08-017 Computational Fluid Dynamics Analysis of Externally Blown Flap Configuration for Transport Aircraft
C08-028 Tail-Sitter Vertical Takeoff and Landing Unmanned Aerial Vehicle: Transitional Flight Analysis
C08-019 Aerodynamic Modeling of the Wing-Propeller Interaction for a Tail-Sitter Unmanned Air Vehicle
C08-218 Development of a Four-Rotor Cyclocopter
C08-070 Flight Testing of the T-Wing Tail-Sitter Unmanned Air Vehicle
C08-175 Flow Measurements in a Short Takeoff, Vertical Landing Fountain: Parallel Jets

Structural Design (Including Loads)

C08-002 Engineering Solutions in Support of Supplementary Type Certificate to a Transport-Category Aircraft
C08-200 Being Conservative with a Limited Number of Test Results
C08-192 Evolutionary Multicriteria Design Optimization of Integrally Stiffened Airframe Structures
C08-172 Modeling the Lofting of Runway Debris by Aircraft Tires
C08-075 Stalling Speeds and Determination of Maneuver Speed for Rogallo-Winged Microlight Airplanes
C08-222 Coupled Aerodynamic/Structural Optimization of a Subsonic Transport Wing Using a Surrogate Model

Structural Materials

C08-052 Characterization of In-Plane Shear Properties of Laminated Composites at High Strain Rates
C08-112 Probabilistic Modeling on Short-Crack Growth in Airframe Aluminum Alloys
C08-119 Fiber/Metal Composite Technology for Future Primary Aircraft Structures

System Effectiveness

C08-073 Fuel-Sensitivity Analyses for Jet and Piston-Propeller Airplanes

Testing, Flight and Ground

C08-183 Simple Experimental Method to Estimate the Lift of Airfoils
C08-027 Ground-Based Simulation of Complex Maneuvers of a Delta-Wing Aircraft
C08-195 Higher-Order Spectral Analysis of Limit Cycle Oscillations of Fighter Aircraft
C08-002 Engineering Solutions in Support of Supplementary Type Certificate to a Transport-Category Aircraft
C08-029 Effects of Bearing Friction of a Free-to-Roll Rig on Transonic Lateral Dynamics
C08-103 Wind-Tunnel Testing and Modeling of a Micro Air Vehicle with Flexible Wings
C08-138 Experimental Investigation on Modal Signature of Smart Spring/Helicopter Blade System
C08-206 Flight Data Analysis and Simulation of Wind Effects During Aerial Refueling
C08-224 Transformed Normal Probability Density Functions for Parameter Estimation
C08-225 Modified Aileron Tips Improve Lateral Stability
C08-101 Active Control of Three-Surface Aeroelastic Model

Uninhabited and Unmanned Air Vehicles

C08-001 Increasing the Lift-Drag Ratio of an Unmanned Aerial Vehicle Using Local Twist

C08-028 Tail-Sitter Vertical Takeoff and Landing Unmanned Aerial Vehicle: Transitional Flight Analysis
C08-019 Aerodynamic Modeling of the Wing-Propeller Interaction for a Tail-Sitter Unmanned Air Vehicle
C08-074 Transient Structure on Unmanned Combat Air Vehicle: Effect of Pitch-Up Motion
C08-141 Variable Fidelity Conceptual Design Environment for Revolutionary Unmanned Aerial Vehicles
C08-180 Design of a High-Lift, Thick Airfoil for Unmanned Aerial Vehicle Applications
C08-044 Aerodynamic Characteristics of a Gurney/Jet Flap at Low Reynolds Numbers
C08-070 Flight Testing of the T-Wing Tail-Sitter Unmanned Air Vehicle
C08-076 Engine Speed and Velocity Controller Development for Small Unmanned Aerial Vehicle

Vibration

C08-095 Semi-Active Magnetorheological Helicopter Crew Seat Suspension for Vibration Isolation
C08-203 Passengers' Comfort Modeling Inside Aircraft
C08-114 Theoretical and Experimental Aeroelastic Study for Folding Wing Structures
C08-053 Dynamic Multimode Response of Composite Plates to Sonic Boom and Blast Loadings

Weather Hazards

C08-215 Aircraft Icing in Glaciated and Mixed Phase Clouds
C08-063 Aerodynamic Simulation of a Horn-Ice Accretion on a Subscale Model
C08-123 Measurement-Integrated Simulation of Clear Air Turbulence Using a Four-dimensional Variational Method

COMPUTING, INFORMATION, AND COMMUNICATION

ATC Systems

C08-214 Tactical Conflict Resolution Using Vertical Maneuvers in En Route Airspace

Avionics Systems

C08-210 Air Data Computation Using Neural Networks
C08-016 Ecological Approach to Support Pilot Terrain Awareness After Total Engine Failure
C08-110 Simplified Algorithm to Model Aircraft Acceleration During Takeoff

Controls and Displays

C08-174 Stereo Projections of Miss Distance in Some New Cockpit Display Formats

Distributed Systems and Networking

C08-169 Network-Theoretic Approach for Analyzing Connectivity in Air Transportation Networks

ENERGY

Wind Power

C08-188 Autonomous Surface Vehicle Free-Rotating Wingsail Section Design and Configuration Analysis

FLIGHT SIMULATOR SYSTEMS

Guidance, Navigation, and Control Systems

C08-070 Flight Testing of the T-Wing Tail-Sitter Unmanned Air Vehicle
C08-140 Pilot-Force Measurement with Inertia and Gravity Compensation

Human–Computer Interactions

C08-120 Effect of Jerk and Acceleration on the Perception of Motion Strength
C08-128 Role Identification of Yaw and Sway Motion in Helicopter Yaw Control Tasks

FLUID DYNAMICS

Aeroacoustics

C08-040 Surface Integral Methods in Jet Aeroacoustics: Refraction Corrections
C08-163 Long-Range Propagation of Sonic Boom from the Concorde Airliner: Analyses and Simulations
C08-217 Shallow Rectangular Cavities at Low Speeds Including Effects of Yaw

Boundary Layers and Heat Transfer-Laminar

C08-209 Bioinspired Corrugated Airfoil at Low Reynolds Numbers

Boundary Layers and Heat Transfer-Turbulent

C08-078 Effect of Ce1 on the Performance of the Menter One-Equation Model of Turbulence

Boundary-Layer Stability and Transition

C08-223 Leading-Edge Surface-Manipulated Flow Separation from an Airfoil
C08-108 Laminar Flow Separation and Transition on a Low-Reynolds-Number Airfoil
C08-197 Low- and High-Speed Flight Experiments on Transition Detection
C08-177 Transition Prediction and Impact on a Three-Dimensional High-Lift-Wing Configuration
C08-158 Transport Aircraft Three-Dimensional High-Lift Wing Numerical Transition Prediction
C08-152 Transition Measurement of Natural Laminar Flow Wing on Supersonic Experimental Airplane NEXST-1
C08-133 Experimental Investigation of Pressure Measurement and Airfoil Characteristics at Low Reynolds Numbers

Computational Fluid Dynamics

C08-196 Explicit Finite Volume Modeling of Aircraft Anti-Icing and De-Icing
C08-124 Performance and Flow Characteristics of Double-Offset Y-Shaped Aircraft Intake Ducts
C08-177 Transition Prediction and Impact on a Three-Dimensional High-Lift-Wing Configuration
C08-211 Numerical Investigations of Injection-Slot-Size Effect on the Performance of Coflow Jet Airfoils
C08-153 Numerical Analysis on Flight-Test Results of Supersonic Experimental Airplane NEXST-1
C08-085 Drag Prediction for the DLR-F6 Wing-Body Configuration Using the Edge Solver
C08-170 Flow Control for the Systematic Buildup of High-Lift Systems
C08-067 Aerodynamic Characteristics of Elliptic Airfoils in High Reynolds Numbers
C08-058 Uniformly High-Order Essentially Non-oscillatory Schemes for Vortex Convection Across Overset Interfaces
C08-123 Measurement-Integrated Simulation of Clear Air Turbulence Using a Four-dimensional Variational Method
C08-125 Effects of Nonlinearities on Subsonic Aerodynamic Center
C08-113 Numerical Calculation of Impulsive and Indicial Aerodynamic Responses Using Computational Aerodynamics Techniques
C08-080 Third Drag Prediction Workshop Results Using the NSU3D Unstructured Mesh Solver
C08-086 Reynolds-Averaged Navier–Stokes Simulation of Low-Reynolds-Number Airfoil Aerodynamics
C08-078 Effect of Ce1 on the Performance of the Menter One-Equation Model of Turbulence
C08-105 Determination of Wing-Only Aircraft Tumbling Characteristics Through Computational Fluid Dynamics
C08-130 Computational Prediction of Roll Damping for the F/A-18E at Transonic Speeds
C08-082 Abridged Summary of the Third AIAA Computational Fluid Dynamics Drag Prediction Workshop
C08-072 Numerical Simulation of Surface Heat Transfer from an Array of Hot-Air Jets
C08-024 Simulation of Flow Separation at the Wing-Body Junction with Different Fairings
C08-004 Investigation of a Half-Model High-Lift Configuration in a Wind Tunnel
C08-104 Estimating the Subsonic Aerodynamic Center and Moment Components for Swept Wings
C08-083 Comparison Study of Drag Prediction by Structured and Unstructured Mesh Method
C08-081 CFL3D/OVERFLOW Results for DLR-F6 Wing/Body and Drag Prediction Workshop Wing
C08-022 Development of the Discrete Adjoint for a Three-Dimensional Unstructured Euler Solver
C08-207 High-Lift Devices Performance Enhancement Using Mechanical and Air-Jet Vortex Generators
C08-020 Investigations for Supersonic Transports at Transonic and Supersonic Conditions
C08-096 Wing-Rock Limit Cycle Oscillation Prediction Based on Computational Fluid Dynamics
C08-084 DLR Results from the Third AIAA Computational Fluid Dynamics Drag Prediction Workshop
C08-093 Computational Modeling of HART II Blade-Vortex Interaction Loading and Wake System
C08-107 Mesh Generation and Deformation Algorithm for Aeroelasticity Simulations
C08-098 Unsteady Simulations of Bell-Agusta 609 Rotor Undergoing Higher Harmonic Oscillation
C08-079 Structured and Unstructured Navier–Stokes Solvers for the Third Drag Prediction Workshop
C08-040 Surface Integral Methods in Jet Aeroacoustics: Refraction Corrections

C08-158 Transport Aircraft Three-Dimensional High-Lift Wing Numerical Transition Prediction
C08-127 Simultaneous Excitation of Multiple-Input/Multiple-Output CFD-Based Unsteady Aerodynamic Systems
C08-023 Computational Study of the Advancing-Side Lift-Phase Problem
C08-159 A *z*-Transform Discrete-Time State-Space Formulation for Aeroelastic Stability Analysis
C08-168 Computational Prediction of Nose-Down Control for F/A-18E at High Alpha
C08-166 Aerodynamic Redesign Using Discrete Adjoint Approach on Overset Mesh System

Inlet, Nozzle, Diffuser, and Channel Flows

C08-148 Topological Geometry Interpretation of Supersonic Inlet Start/Unstart Based on Catastrophe Theory
C08-124 Performance and Flow Characteristics of Double-Offset Y-Shaped Aircraft Intake Ducts

Jets, Wakes, and Viscid-Inviscid Flow Interactions

C08-007 Calculations of High-Temperature Jet Flow Using Hybrid Reynolds-Averaged Navier–Stokes Formulations
C08-072 Numerical Simulation of Surface Heat Transfer from an Array of Hot-Air Jets
C08-137 Landing Gear Influence on the Wake Vortex of a Large Transport Aircraft
C08-175 Flow Measurements in a Short Takeoff, Vertical Landing Fountain: Parallel Jets
C08-047 Dynamics of Vortical Flows Induced by Swept-Notched Wings in Aircraft Wake Simulations
C08-071 Transport Aircraft Wake Influenced by a Large Winglet and Winglet Flaps

Plasmadynamics and MHD

C08-021 Scaling Effects of an Aerodynamic Plasma Actuator

Separated Flows

C08-024 Simulation of Flow Separation at the Wing-Body Junction with Different Fairings
C08-154 Flow Simulation of an Supersonic Transport Configuration at Low-Speed and High-Lift Conditions
C08-111 Tip-Disturbance Effects on Asymmetric Vortex Breakdown Around a Chined Forebody
C08-202 Forced Separation and Reattachment of Flow to Modified Glauert Laminar Airfoil Section II
C08-184 Aerodynamics of a Generic Optical Turret

Shock Waves and Detonations

C08-045 Design Space Exploration of Supersonic Formation Flying Focusing on Drag Minimization

Subsonic Flow

C08-008 Experimental and Numerical Investigation of 65 Degree Delta and 65/40 Degree Double-Delta Wings
C08-142 Application of Piezoelectric Actuators at Subsonic Speeds
C08-219 Experimental Study on Lift Characteristics for Flow over Flexible Cropped Delta Wings
C08-208 Experimental Investigation of Gurney Flaps
C08-199 Oscillation Effects on Boundary-Layer Development Under the Influence of Favorable Pressure Gradients
C08-217 Shallow Rectangular Cavities at Low Speeds Including Effects of Yaw

Supersonic Flow

C08-153 Numerical Analysis on Flight-Test Results of Supersonic Experimental Airplane NEXST-1
C08-150 Multiple Discipline Optimization and Aerodynamic Off-Design Analysis of Supersonic Transport Aircraft
C08-045 Design Space Exploration of Supersonic Formation Flying Focusing on Drag Minimization
C08-152 Transition Measurement of Natural Laminar Flow Wing on Supersonic Experimental Airplane NEXST-1
C08-102 Control of Pressure Loads in Geometrically Complex Cavities

Transonic Flow

C08-080 Third Drag Prediction Workshop Results Using the NSU3D Unstructured Mesh Solver
C08-085 Drag Prediction for the DLR-F6 Wing-Body Configuration Using the Edge Solver
C08-081 CFL3D/OVERFLOW Results for DLR-F6 Wing/Body and Drag Prediction Workshop Wing
C08-130 Computational Prediction of Roll Damping for the F/A-18E at Transonic Speeds
C08-082 Abridged Summary of the Third AIAA Computational Fluid Dynamics Drag Prediction Workshop
C08-212 Effect of Humidity on Transonic Flow
C08-020 Investigations for Supersonic Transports at Transonic and Supersonic Conditions
C08-083 Comparison Study of Drag Prediction by Structured and Unstructured Mesh Method
C08-084 DLR Results from the Third AIAA Computational Fluid Dynamics Drag Prediction Workshop
C08-155 Transonic Limit Cycle Flutter of High-Aspect-Ratio Swept Wings
C08-186 Transonic Aeroelastic Analysis of All-Movable Wing with Free Play and Viscous Effects
C08-190 Calculated Viscous and Scale Effects on Transonic Aeroelasticity
C08-035 Review and Experimental Survey of Flapped Exhaust Performance
C08-079 Structured and Unstructured Navier–Stokes Solvers for the Third Drag Prediction Workshop

Unsteady Flows

C08-134 Boundary-Layer Control by Hydrophilic Surfaces
C08-201 Insectlike Flapping Wings in the Hover Part 2: Effect of Wing Geometry
C08-108 Laminar Flow Separation and Transition on a Low-Reynolds-Number Airfoil
C08-094 Unsteady Wing-Pylon-Nacelle Interference in Transonic Flow
C08-122 Lift from Spanwise Flow in Simple Flapping Wings
C08-212 Effect of Humidity on Transonic Flow
C08-096 Wing-Rock Limit Cycle Oscillation Prediction Based on Computational Fluid Dynamics
C08-091 Flutter and Divergence Analysis Using the Generalized Aeroelastic Analysis Method
C08-190 Calculated Viscous and Scale Effects on Transonic Aeroelasticity
C08-098 Unsteady Simulations of Bell-Agusta 609 Rotor Undergoing Higher Harmonic Oscillation
C08-156 Wind Tunnel Studies of Damaged-Wing-Induced Limit Cycle Oscillations
C08-178 Flexible-Membrane Airfoils at Low Reynolds Numbers
C08-164 Airbrake-Induced Fin-Buffet Loads on Fighter Aircraft
C08-199 Oscillation Effects on Boundary-Layer Development Under the Influence of Favorable Pressure Gradients
C08-198 Insectlike Flapping Wings in the Hover Part 1: Effect of Wing Kinematics
C08-227 Effects of Unsteady Freestream on Aerodynamic Characteristics of a Pitching Delta Wing
C08-171 General Mass Capture Model for Swiftly Opening Parachutes

Vortices

C08-213 Active Flow Control on a Nonslender Delta Wing
C08-058 Uniformly High-Order Essentially Non-oscillatory Schemes for Vortex Convection Across Overset Interfaces
C08-065 Experimental Investigation of Pairs of Vortex Filaments in Ground Effect
C08-219 Experimental Study on Lift Characteristics for Flow over Flexible Cropped Delta Wings
C08-137 Landing Gear Influence on the Wake Vortex of a Large Transport Aircraft
C08-089 Reactive Flow Control of Delta-Wing Vortex
C08-074 Transient Structure on Unmanned Combat Air Vehicle: Effect of Pitch-Up Motion
C08-047 Dynamics of Vortical Flows Induced by Swept-Notched Wings in Aircraft Wake Simulations
C08-071 Transport Aircraft Wake Influenced by a Large Winglet and Winglet Flaps
C08-048 Skill of an Aircraft Wake-Vortex Model Using Weather Prediction and Observation
C08-147 Examining Effects of Increased Effective Area on Performance of Movable Tip Strakes
C08-096 Wing-Rock Limit Cycle Oscillation Prediction Based on Computational Fluid Dynamics
C08-008 Experimental and Numerical Investigation of 65 Degree Delta and 65/40 Degree Double-Delta Wings
C08-077 Effect of the Blade Inner-Tip Position on the Generation of Twin Vortices
C08-093 Computational Modeling of HART II Blade-Vortex Interaction Loading and Wake System
C08-131 Effects of a Movable Tip Strake on Wake Vortex Structure
C08-111 Tip-Disturbance Effects on Asymmetric Vortex Breakdown Around a Chined Forebody
C08-178 Flexible-Membrane Airfoils at Low Reynolds Numbers
C08-164 Airbrake-Induced Fin-Buffet Loads on Fighter Aircraft

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Dynamics

C08-105 Determination of Wing-Only Aircraft Tumbling Characteristics Through Computational Fluid Dynamics
C08-160 Structure Computation of Quiet Spike™ Flight-Test Data During Envelope Expansion
C08-176 A New Look at High-Altitude Turbulence
C08-130 Computational Prediction of Roll Damping for the F/A-18E at Transonic Speeds

Aircraft Stability and Control

C08-068 Metrics for the Evaluation of Pedal Force/Feel Systems in Transport Aircraft
C08-105 Determination of Wing-Only Aircraft Tumbling Characteristics Through Computational Fluid Dynamics
C08-205 Flight Control System Design for Inherent Damage Tolerance
C08-051 Conceptual Study of Gondola Stabilization in a Balloon System
C08-014 General Approach to Enhance Flying Qualities via Dynamic Balancing of Aircraft Mass
C08-225 Modified Aileron Tips Improve Lateral Stability
C08-168 Computational Prediction of Nose-Down Control for F/A-18E at High Alpha

Autonomous Vehicles

C08-188 Autonomous Surface Vehicle Free-Rotating Wingsail Section Design and Configuration Analysis

Avionics Systems

C08-039 Design, Integration, and Preliminary Assessment of a Takeoff Monitor Display

Control System Design

C08-089 Reactive Flow Control of Delta-Wing Vortex
C08-205 Flight Control System Design for Inherent Damage Tolerance
C08-191 Robust Model Predictive Control of Shimmy Vibration in Aircraft Landing Gears
C08-076 Engine Speed and Velocity Controller Development for Small Unmanned Aerial Vehicle
C08-088 Wind-Tunnel Testing of Rotor with Individually Controlled Trailing-Edge Flaps for Vibration Reduction

Control System Effectors

C08-140 Pilot-Force Measurement with Inertia and Gravity Compensation
C08-043 Aircraft Control via Variable Cant-Angle Winglets

Control System Sensors

C08-210 Air Data Computation Using Neural Networks

Control Theory

C08-191 Robust Model Predictive Control of Shimmy Vibration in Aircraft Landing Gears

Engine Control

C08-076 Engine Speed and Velocity Controller Development for Small Unmanned Aerial Vehicle

Flight Mechanics

C08-032 Rotorcraft Parameter Identification from Real Time Flight Data
C08-003 Transition Point Detection from the Surface Pressure Distribution for Controller Design
C08-206 Flight Data Analysis and Simulation of Wind Effects During Aerial Refueling

Handling Qualities

C08-068 Metrics for the Evaluation of Pedal Force/Feel Systems in Transport Aircraft
C08-120 Effect of Jerk and Acceleration on the Perception of Motion Strength
C08-205 Flight Control System Design for Inherent Damage Tolerance
C08-014 General Approach to Enhance Flying Qualities via Dynamic Balancing of Aircraft Mass

Navigation

C08-064 Wide Area Augmentation System-Based Flight Inspection System

Optimization Techniques

C08-161 Adaptive Eulerian Modeling for Air Traffic Flow Management
C08-014 General Approach to Enhance Flying Qualities via Dynamic Balancing of Aircraft Mass
C08-121 Environmentally Optimized Resolutions of In-Trail Separation Conflicts for Arrival Flights

Signal Processing

C08-064 Wide Area Augmentation System-Based Flight Inspection System
C08-160 Structure Computation of Quiet Spike™ Flight-Test Data During Envelope Expansion
C08-163 Long-Range Propagation of Sonic Boom from the Concorde Airliner: Analyses and Simulations
C08-220 Soft-Histogram Degradation Analysis of a Tie Bar of a Rotor-Head Structure

Soft Computing

C08-220 Soft-Histogram Degradation Analysis of a Tie Bar of a Rotor-Head Structure

Structural Control

C08-101 Active Control of Three-Surface Aeroelastic Model

System Identification

C08-032 Rotorcraft Parameter Identification from Real Time Flight Data
C08-088 Wind-Tunnel Testing of Rotor with Individually Controlled Trailing-Edge Flaps for Vibration Reduction
C08-160 Structure Computation of Quiet Spike™ Flight-Test Data During Envelope Expansion
C08-127 Simultaneous Excitation of Multiple-Input/Multiple-Output CFD-Based Unsteady Aerodynamic Systems
C08-224 Transformed Normal Probability Density Functions for Parameter Estimation

Trajectory Optimization

C08-161 Adaptive Eulerian Modeling for Air Traffic Flow Management

INTERDISCIPLINARY TOPICS

Aerospace Management

C08-048 Skill of an Aircraft Wake-Vortex Model Using Weather Prediction and Observation

Analytical and Numerical Methods

C08-038 Inverse Method Using Finite Strain Measurements to Determine Flight Load Distribution Functions
C08-182 Failure-Finding Frequency for a Repairable System Subject to Hidden Failures
C08-135 Transonic Nonlinear Aeroelastic Analysis of Aircraft Tail Wings Using Multiblock Approach
C08-139 Interactive Inverse Design Optimization of Fuselage Shape for Low-Boom Supersonic Concepts
C08-179 Generation of Aerodynamics Databases Using High-Order Singular Value Decomposition
C08-012 Multifidelity Design Optimization of Low-Boom Supersonic Jets
C08-022 Development of the Discrete Adjoint for a Three-Dimensional Unstructured Euler Solver

Atmospheric and Space Sciences

C08-048 Skill of an Aircraft Wake-Vortex Model Using Weather Prediction and Observation

Environmental Effects

C08-167 Hydrogen-Assisted Fatigue Lifetime Characteristic of AF1410 Steel
C08-176 A New Look at High-Altitude Turbulence
C08-121 Environmentally Optimized Resolutions of In-Trail Separation Conflicts for Arrival Flights

Human Factors

C08-128 Role Identification of Yaw and Sway Motion in Helicopter Yaw Control Tasks
C08-120 Effect of Jerk and Acceleration on the Perception of Motion Strength
C08-016 Ecological Approach to Support Pilot Terrain Awareness After Total Engine Failure
C08-039 Design, Integration, and Preliminary Assessment of a Takeoff Monitor Display

Multidisciplinary Design Optimization

C08-150 Multiple Discipline Optimization and Aerodynamic Off-Design Analysis of Supersonic Transport Aircraft
C08-162 Multidisciplinary Design Exploration for a Winglet
C08-054 Personalized Ventilation for Commercial Aircraft Cabins
C08-139 Interactive Inverse Design Optimization of Fuselage Shape for Low-Boom Supersonic Concepts
C08-005 Simultaneous Airframe and Propulsion Cycle Optimization for Supersonic Aircraft Design
C08-151 Evolutionary-Based Multidisciplinary Design Exploration for Silent Supersonic Technology Demonstrator Wing
C08-061 Multidisciplinary Integrated Preliminary Design Applied to Unconventional Aircraft Configurations
C08-011 Optimum Selection of "Number of Seats/Cargo Volume" for Transports in Uncertain Business Environment

C08-012 Multifidelity Design Optimization of Low-Boom Supersonic Jets
C08-015 Universal Parametric Geometry Representation Method
C08-010 Efficient Reliability-Based Design and Inspection of Stiffened Panels Against Fatigue
C08-222 Coupled Aerodynamic/Structural Optimization of a Subsonic Transport Wing Using a Surrogate Model
C08-166 Aerodynamic Redesign Using Discrete Adjoint Approach on Overset Mesh System

Reliability, Maintainability, and Logistics Support

C08-009 Tradeoff of Weight and Inspection Cost in Reliability-Based Structural Optimization
C08-010 Efficient Reliability-Based Design and Inspection of Stiffened Panels Against Fatigue
C08-182 Failure-Finding Frequency for a Repairable System Subject to Hidden Failures

Research Facilities and Instrumentation

C08-027 Ground-Based Simulation of Complex Maneuvers of a Delta-Wing Aircraft

Sensor Systems

C08-210 Air Data Computation Using Neural Networks

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Aerodynamics

C08-150 Multiple Discipline Optimization and Aerodynamic Off-Design Analysis of Supersonic Transport Aircraft

Testing, Flight and Ground

C08-195 Higher-Order Spectral Analysis of Limit Cycle Oscillations of Fighter Aircraft

PROPULSION

Airbreathing Propulsion

C08-148 Topological Geometry Interpretation of Supersonic Inlet Start/Unstart Based on Catastrophe Theory

Engine Performance

C08-145 Simplified Thrust and Fuel Consumption Models for Modern Two-Shaft Turbofan Engines

Gas Turbine Engines

C08-136 Thrust and Drag Models for Performance Calculations for High-Speed Aircraft

REAL-TIME SYSTEMS

Robotic Systems

C08-188 Autonomous Surface Vehicle Free-Rotating Wingsail Section Design and Configuration Analysis

Signal Processing

C08-224 Transformed Normal Probability Density Functions for Parameter Estimation
C08-156 Wind Tunnel Studies of Damaged-Wing-Induced Limit Cycle Oscillations

Systems of Systems

C08-169 Network-Theoretic Approach for Analyzing Connectivity in Air Transportation Networks

Unmanned Systems

C08-141 Variable Fidelity Conceptual Design Environment for Revolutionary Unmanned Aerial Vehicles

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Control

C08-109 Robust Flutter Analysis Considering Mode Shape Variations
C08-097 Thermoacoustic Random Response of Shape Memory Alloy Hybrid Composite Plates
C08-056 Continuation of Higher-Order Harmonic Balance Solutions for Nonlinear Aeroelastic Systems
C08-050 Flight-Loads Effects on Horizontal Tail Free-Play-Induced Limit Cycle Oscillation
C08-135 Transonic Nonlinear Aeroelastic Analysis of Aircraft Tail Wings Using Multiblock Approach
C08-194 Nonlinear Stability Analysis of Control Surface Flutter with Freeplay Effects
C08-088 Wind-Tunnel Testing of Rotor with Individually Controlled Trailing-Edge Flaps for Vibration Reduction
C08-057 Flight Dynamics of Highly Flexible Aircraft

Dynamic Model Analysis

C08-114 Theoretical and Experimental Aeroelastic Study for Folding Wing Structures

Flexible and Active Structures

C08-057 Flight Dynamics of Highly Flexible Aircraft
C08-189 Topology Optimization Approach for the Determination of the Multiple-Configuration Morphing Wing Structure

Materials Structural Properties

C08-167 Hydrogen-Assisted Fatigue Lifetime Characteristic of AF1410 Steel
C08-200 Being Conservative with a Limited Number of Test Results

Structural Composite Materials

C08-151 Evolutionary-Based Multidisciplinary Design Exploration for Silent Supersonic Technology Demonstrator Wing
C08-069 Effective Simulation of Delamination in Aeronautical Structures Using Shells and Cohesive Elements
C08-119 Fiber/Metal Composite Technology for Future Primary Aircraft Structures
C08-052 Characterization of In-Plane Shear Properties of Laminated Composites at High Strain Rates
C08-055 Approximate Internal Load Prediction in Composite Structures with Locally Buckled Panels
C08-042 Buckling Behavior of Composite Laminated Stiffened Panels Under Combined Shear-Axial Compression
C08-046 Improved Design for Metallic and Composite Single-Lap Joints
C08-053 Dynamic Multimode Response of Composite Plates to Sonic Boom and Blast Loadings
C08-030 Aeroelastic Response of Composite Helicopter Rotor with Random Material Properties
C08-157 Tear Propagation of a High-Performance Airship Envelope Material
C08-060 Thermally Induced Loads of Fastened Hybrid Composite/Aluminum Structures
C08-066 Design Tailoring for Pressure Pillowing Using Tow-Placed Steered Fibers

Structural Design

C08-046 Improved Design for Metallic and Composite Single-Lap Joints
C08-038 Inverse Method Using Finite Strain Measurements to Determine Flight Load Distribution Functions
C08-200 Being Conservative with a Limited Number of Test Results
C08-066 Design Tailoring for Pressure Pillowing Using Tow-Placed Steered Fibers

Structural Durability (Including Fatigue, Fracture, and Environmental Degradation)

C08-112 Probabilistic Modeling on Short-Crack Growth in Airframe Aluminum Alloys
C08-157 Tear Propagation of a High-Performance Airship Envelope Material
C08-009 Tradeoff of Weight and Inspection Cost in Reliability-Based Structural Optimization
C08-010 Efficient Reliability-Based Design and Inspection of Stiffened Panels Against Fatigue

Structural Dynamics and Characterization

C08-057 Flight Dynamics of Highly Flexible Aircraft
C08-106 Delta Wing with Store Limit-Cycle-Oscillation Modeling Using a High-Fidelity Structural Model
C08-155 Transonic Limit Cycle Flutter of High-Aspect-Ratio Swept Wings
C08-138 Experimental Investigation on Modal Signature of Smart Spring/Helicopter Blade System
C08-053 Dynamic Multimode Response of Composite Plates to Sonic Boom and Blast Loadings
C08-194 Nonlinear Stability Analysis of Control Surface Flutter with Freeplay Effects
C08-165 Investigation of Rotor Blade Structural Dynamics and Modeling Based on Measured Airloads
C08-090 Bifurcation Analysis of Aircraft with Structural Nonlinearity and Freeplay Using Numerical Continuation

Structural Finite Elements

C08-069 Effective Simulation of Delamination in Aeronautical Structures Using Shells and Cohesive Elements
C08-046 Improved Design for Metallic and Composite Single-Lap Joints
C08-106 Delta Wing with Store Limit-Cycle-Oscillation Modeling Using a High-Fidelity Structural Model
C08-038 Inverse Method Using Finite Strain Measurements to Determine Flight Load Distribution Functions
C08-041 High-Order Finite Elements for Structural Dynamics Applications

Structural Modeling

C08-069 Effective Simulation of Delamination in Aeronautical Structures Using Shells and Cohesive Elements
C08-189 Topology Optimization Approach for the Determination of the Multiple-Configuration Morphing Wing Structure
C08-192 Evolutionary Multicriteria Design Optimization of Integrally Stiffened Airframe Structures
C08-055 Approximate Internal Load Prediction in Composite Structures with Locally Buckled Panels
C08-042 Buckling Behavior of Composite Laminated Stiffened Panels Under Combined Shear-Axial Compression
C08-165 Investigation of Rotor Blade Structural Dynamics and Modeling Based on Measured Airloads
C08-060 Thermally Induced Loads of Fastened Hybrid Composite/Aluminum Structures
C08-041 High-Order Finite Elements for Structural Dynamics Applications

Structural Optimization

C08-189 Topology Optimization Approach for the Determination of the Multiple-Configuration Morphing Wing Structure
C08-192 Evolutionary Multicriteria Design Optimization of Integrally Stiffened Airframe Structures
C08-066 Design Tailoring for Pressure Pillowing Using Tow-Placed Steered Fibers
C08-009 Tradeoff of Weight and Inspection Cost in Reliability-Based Structural Optimization
C08-055 Approximate Internal Load Prediction in Composite Structures with Locally Buckled Panels

Structural Stability

C08-042 Buckling Behavior of Composite Laminated Stiffened Panels Under Combined Shear-Axial Compression
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